

SEPARATION PLANTS



Herrenknecht Separation Plants (HKS) are used in fluid-assisted tunnelling for the primary separation of solids from the suspension - also known as “slurry”. They are multi-stage, modular, containerized and pre-assembled for easy handling, fast installation and commissioning. Efficient and reliable components, specifically designed according to the geological requirements and to the maximum excavation parameters, guarantee safe and trouble-free operation under optimal disposal conditions. This ensures that the separation process does not become a bottleneck in the tunnelling process.

Importance of separation on jobsites

- Purification and recycling of suspension for safe operation
- Key performance factor for TBMs
- Extension of the suspension lifetime
- Classification by size
- Optimized disposal costs
- Efficient recovery and reuse of water
- Proven and reliable technology

Advantages of HKS

- Suitable for high solid loads and volume flows
- Different capacities and sizes available
- Modular expandable if necessary
- Easy handling due to container design (-CC)
- Compact for low space requirements
- Fast assembly and disassembly
- High quality components ensure low maintenance and operating costs
- Easy to refurbish and reuse

Herrenknecht Separation Plants

Technical specifications

- > Level 4: hydrocyclones, drum screen machine (if applicable)
- > Level 3: coarse screen machine, dewatering screen machine
- > Level 2: screen underflow tanks, cyclone feed pumps
- > Level 1: active tanks, transfer pumps



Basic items

- > Coarse screen machines for scalping
- > Dewatering screen machines for desanding
- > Hydrocyclone stages for desilting
- > Cyclone feed pumps
- > Active, balance and collecting tanks
- > Switch and control cabinets
- > Housing with sandwich panels
- > Ventilation system
- > Pipelining with fast couplings

Optional items

- > Control room and laboratory
- > Drum screen upgrade to avoid clogging
- > Density regulation system for ultra-fines
- > Noise and vibration cancelling system
- > STP.ON module for HK.CONNECTED data management system
- > Further peripheral components to complete the jobsite

Technical details approx.

		1-Block (HKS 500 - 1200)	2-Block (HKS 800 - 1500)	3-Block (HKS 1500 - 3000**)
Max. inlet flow	m ³ /h	500 - 1,200	800 - 1,500	1,500 - 3,000
Max. discharged solids capacity	t/h	100 - 300	300 - 700	700 - 1500
Mesh size coarse screen**	mm	12 / 3-4	12 / 3-4	12 / 3-4
Mesh size dewatering screen**	mm	0.5	0.5	0.5
Cut point D50 coarse cyclones*	µm	75 - 90	75 - 90	75 - 90
Cut point D50 fine cyclones*	µm	25 - 35	25 - 35	25 - 35
Total installed power approx.	kW	150 - 450	400 - 850	850 - 1,200
Dimensions approx.	LxWxH	12 x 5 x 9 m	12 x 9 x 12 m	12 x 12 x 12 m

* liquid viscosity = 1.0 cPs (water)

** typical mesh size, selected according to geology

*** higher volumes possible depending on TBM diameter or requirements

